

Serial Number: 08/737,904H

**ENTERED****RECEIVED**

NOV 13 2001

TECH CENTER 1600/2900

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/lastname at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☐ Other: \_\_\_\_\_

Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/08/737,904H

DATE: 11/01/2001

TIME: 19:01:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

3 <110> APPLICANT: Griffith, Irwin J  
4 Kuo, Mei-Chang  
5 Luqman, Mohammad  
7 <120> TITLE OF INVENTION: T CELL EPITOPES OF RYEGRASS POLLEN ALLERGEN  
9 <130> FILE REFERENCE: IMI-040CP3  
11 <140> CURRENT APPLICATION NUMBER: 08/737,904H  
12 <141> CURRENT FILING DATE: 1996-11-20  
14 <150> PRIOR APPLICATION NUMBER: 08/106,016  
15 <151> PRIOR FILING DATE: 1993-08-13  
17 <160> NUMBER OF SEQ ID NOS: 61  
19 <170> SOFTWARE: PatentIn Ver. 2.0  
W--> 20 <210> SEQ ID NO: 1  
21 <211> LENGTH: 1229  
22 <212> TYPE: DNA  
23 <213> ORGANISM: Escherichia coli  
25 <220> FEATURE:  
26 <221> NAME/KEY: CDS  
27 <222> LOCATION: (40)..(942)  
29 <400> SEQUENCE: 1  
30 cgctatccct ccctcgtaga aacaaacgca agagcagca atg gcc gtc cag aag 54  
31 Met Ala Val Gln Lys  
32 1 5  
34 tac acg gtg gct cta ttc ctc gcc gtg gcc ctc gtg gcg ggc ccg gcc 102  
35 Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu Val Ala Gly Pro Ala  
36 10 15 20  
38 gcc tcc tac gcc gct gac gcc ggc tac acc ccc gca gcc gcg gcc acc 150  
39 Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Thr Pro Ala Ala Ala Ala Thr  
40 25 30 35  
42 ccg gct act cct gct gcc acc ccg gct gcg gct gga ggg aag gcg acg 198  
43 Pro Ala Thr Pro Ala Ala Thr Pro Ala Ala Ala Gly Gly Lys Ala Thr  
44 40 45 50  
46 acc gac gag cag aag ctg ctg gag gac gtc aac gct ggc ttc aag gca 246  
47 Thr Asp Glu Gln Lys Leu Leu Glu Asp Val Asn Ala Gly Phe Lys Ala  
48 55 60 65  
50 gcc gtg gcc gcc gct gcc aac gcc cct ccg gcg gac aag ttc aag atc 294  
51 Ala Val Ala Ala Ala Ala Asn Ala Pro Pro Ala Asp Lys Phe Lys Ile  
52 70 75 80 85  
54 ttc gag gcc gcc ttc tcc gag tcc tcc aag ggc ctc ctc gcc acc tcc 342  
55 Phe Glu Ala Ala Phe Ser Glu Ser Ser Lys Gly Leu Leu Ala Thr Ser  
56 90 95 100  
58 gcc gcc aag gca ccc ggc ctc atc ccc aag ctc gac acc gcc tac gac 390  
59 Ala Ala Lys Ala Pro Gly Leu Ile Pro Lys Leu Asp Thr Ala Tyr Asp  
60 105 110 115  
62 gtc gcc tac aag gcc gcc gag ggc gcc acc ccc gag gcc aag tac gac 438  
63 Val Ala Tyr Lys Ala Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp  
64 120 125 130  
66 gcc ttc gtc act gcc ctc acc gaa gcg ctc cgc gtc atc gcc ggc gcc 486

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Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

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67 Ala Phe Val Thr Ala Leu Thr Glu Ala Leu Arg Val Ile Ala Gly Ala
68      135              140              145
70 ctc gag gtc cac gcc gtc aag ccc gcc acc gag gag gtc cct gct gct 534
71 Leu Glu Val His Ala Val Lys Pro Ala Thr Glu Glu Val Pro Ala Ala
72 150      155              160              165
74 aag atc ccc acc ggt gag ctg cag atc gtt gac aag atc gat gct gcc 582
75 Lys Ile Pro Thr Gly Glu Leu Gln Ile Val Asp Lys Ile Asp Ala Ala
76      170              175              180
78 ttc aag atc gca gcc acc gcc gcc aac gcc gcc ccc acc aac gat aag 630
79 Phe Lys Ile Ala Ala Thr Ala Ala Asn Ala Ala Pro Thr Asn Asp Lys
80      185              190              195
82 ttc acc gtc ttc gag agt gcc ttc aac aag gcc ctc aat gag tgc acg 678
83 Phe Thr Val Phe Glu Ser Ala Phe Asn Lys Ala Leu Asn Glu Cys Thr
84      200              205              210
86 ggc ggc gcc tat gag acc tac aag ttc atc ccc tcc ctc gag gcc gcg 726
87 Gly Gly Ala Tyr Glu Thr Tyr Lys Phe Ile Pro Ser Leu Glu Ala Ala
88      215              220              225
90 gtc aag cag gcc tac gcc gcc acc gtc gcc gcc gcg ccc gag gtc aag 774
91 Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala Pro Glu Val Lys
92 230      235              240              245
94 tac gcc gtc ttt gag gcc gcg ctg acc aag gcc atc acc gcc atg acc 822
95 Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile Thr Ala Met Thr
96      250              255              260
98 cag gca cag aag gcc ggc aaa ccc gct gcc gcc gct gcc aca ggc gcc 870
99 Gln Ala Gln Lys Ala Gly Lys Pro Ala Ala Ala Ala Ala Thr Gly Ala
100      265              270              275
102 gca acc gtt gcc acc ggc gcc gca acc gcc gcc gcc ggt gct gcc acc 918
103 Ala Thr Val Ala Thr Gly Ala Ala Thr Ala Ala Ala Gly Ala Ala Thr
104      280              285              290
106 gcc gct gct ggt ggc tac aaa gcc tgatcagctt gctaataac tactgaacgt 972
107 Ala Ala Ala Gly Gly Tyr Lys Ala
108      295              300
110 atgtatgtgc atgatccggg cggcgagtgg ttttgttgat aattaatctt cgttttcggt 1032
112 tcatgcagcc gcgatcgaga gggcttgcat gcttgtaata attcaatatt ttctatttct 1092
114 ttttgaatct gtaaatcccc atgacaagta gtgggatcaa gtcggcatgt atcaccgttg 1152
116 atgcgagttt aacgatgggg agtttatcaa agaatttatt attaaaaaaaa aaaaaaaaaa 1212
118 aaaaaaaaaa aaaaaaa
121 <210> SEQ ID NO: 2 1229
122 <211> LENGTH: 301
123 <212> TYPE: PRT
124 <213> ORGANISM: Escherichia coli
126 <400> SEQUENCE: 2
127 Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
128 1      5              10              15
130 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Thr Pro
131      20              25              30
133 Ala Ala Ala Ala Thr Pro Ala Thr Pro Ala Ala Thr Pro Ala Ala Ala
134      35              40              45
136 Gly Gly Lys Ala Thr Thr Asp Glu Gln Lys Leu Leu Glu Asp Val Asn

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/08/737,904H

DATE: 11/01/2001

TIME: 19:01:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

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137      50      55      60
139 Ala Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Asn Ala Pro Pro Ala
140 65      70      75      80
142 Asp Lys Phe Lys Ile Phe Glu Ala Ala Phe Ser Glu Ser Ser Lys Gly
143      85      90      95
145 Leu Leu Ala Thr Ser Ala Ala Lys Ala Pro Gly Leu Ile Pro Lys Leu
146      100      105      110
148 Asp Thr Ala Tyr Asp Val Ala Tyr Lys Ala Ala Glu Gly Ala Thr Pro
149      115      120      125
151 Glu Ala Lys Tyr Asp Ala Phe Val Thr Ala Leu Thr Glu Ala Leu Arg
152      130      135      140
154 Val Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Ala Thr Glu
155 145      150      155      160
157 Glu Val Pro Ala Ala Lys Ile Pro Thr Gly Glu Leu Gln Ile Val Asp
158      165      170      175
160 Lys Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn Ala Ala
161      180      185      190
163 Pro Thr Asn Asp Lys Phe Thr Val Phe Glu Ser Ala Phe Asn Lys Ala
164      195      200      205
166 Leu Asn Glu Cys Thr Gly Gly Ala Tyr Glu Thr Tyr Lys Phe Ile Pro
167      210      215      220
169 Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala
170 225      230      235      240
172 Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala
173      245      250      255
175 Ile Thr Ala Met Thr Gln Ala Gln Lys Ala Gly Lys Pro Ala Ala Ala
176      260      265      270
178 Ala Ala Thr Gly Ala Ala Thr Val Ala Thr Gly Ala Ala Thr Ala Ala
179      275      280      285
181 Ala Gly Ala Ala Thr Ala Ala Gly Gly Tyr Lys Ala
182      290      295      300
185 <210> SEQ ID NO: 3
186 <211> LENGTH: 20
187 <212> TYPE: PRT
188 <213> ORGANISM: Escherichia coli
190 <220> FEATURE:
191 <221> NAME/KEY: MOD_RES
192 <222> LOCATION: (7)
193 <223> OTHER INFORMATION: GAMMA_CARBOXYGLUTAMIC ACID
195 <220> FEATURE:
196 <221> NAME/KEY: MOD_RES
197 <222> LOCATION: (13)
198 <223> OTHER INFORMATION: GAMMA_CARBOXYGLUTAMIC ACID
200 <220> FEATURE:
201 <221> NAME/KEY: MOD_RES
202 <222> LOCATION: (16)
203 <223> OTHER INFORMATION: GAMMA_CARBOXYGLUTAMIC ACID
205 <220> FEATURE:
206 <221> NAME/KEY: MOD_RES

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## RAW SEQUENCE LISTING

DATE: 11/01/2001

PATENT APPLICATION: US/08/737,904H

TIME: 19:01:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

207 &lt;222&gt; LOCATION: (20)

208 &lt;223&gt; OTHER INFORMATION: GAMMA\_CARBOXYGLUTAMIC ACID

210 &lt;400&gt; SEQUENCE: 3

W--> 211 Ala Asp Ala Gly Tyr Thr Xaa Ala Ala Ala Ala Thr Xaa Ala Thr Xaa  
 212 1 5 10 15

W--&gt; 214 Ala Ala Thr Xaa

215 20

218 &lt;210&gt; SEQ ID NO: 4

219 &lt;211&gt; LENGTH: 20

220 &lt;212&gt; TYPE: PRT

221 &lt;213&gt; ORGANISM: Escherichia coli

223 &lt;220&gt; FEATURE:

224 &lt;221&gt; NAME/KEY: MOD\_RES

225 &lt;222&gt; LOCATION: (3)

226 &lt;223&gt; OTHER INFORMATION: GAMMA\_CARBOXYGLUTAMIC ACID

228 &lt;220&gt; FEATURE:

229 &lt;221&gt; NAME/KEY: MOD\_RES

230 &lt;222&gt; LOCATION: (10)

231 &lt;223&gt; OTHER INFORMATION: GAMMA\_CARBOXYGLUTAMIC ACID

233 &lt;400&gt; SEQUENCE: 4

W--> 234 Ala Thr Xaa Ala Thr Pro Ala Ala Thr Xaa Ala Ala Ala Gly Gly Lys  
 235 1 5 10 15

237 Ala Thr Thr Asp

238 20

241 &lt;210&gt; SEQ ID NO: 5

242 &lt;211&gt; LENGTH: 20

243 &lt;212&gt; TYPE: PRT

244 &lt;213&gt; ORGANISM: Escherichia coli

246 &lt;220&gt; FEATURE:

248 &lt;400&gt; SEQUENCE: 5

249 Ala Ala Ala Gly Gly Lys Ala Thr Thr Asp Glu Gln Lys Leu Leu Glu

250 1 5 10 15

252 Asp Val Asn Ala

253 20

256 &lt;210&gt; SEQ ID NO: 6

257 &lt;211&gt; LENGTH: 20

258 &lt;212&gt; TYPE: PRT

259 &lt;213&gt; ORGANISM: Escherichia coli

261 &lt;400&gt; SEQUENCE: 6

262 Glu Gln Lys Leu Leu Glu Asp Val Asn Ala Gly Phe Lys Ala Ala Val

263 1 5 10 15

265 Ala Ala Ala Ala

266 20

269 &lt;210&gt; SEQ ID NO: 7

270 &lt;211&gt; LENGTH: 16

271 &lt;212&gt; TYPE: PRT

272 &lt;213&gt; ORGANISM: Escherichia coli

274 &lt;400&gt; SEQUENCE: 7

275 Gly Phe Lys Ala Ala Val Ala Ala Ala Ala Asn Ala Pro Pro Ala Asp

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/08/737,904H

DATE: 11/01/2001

TIME: 19:01:02

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

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276      1                      5                      10                      15
279 <210> SEQ ID NO: 8
280 <211> LENGTH: 20
281 <212> TYPE: PRT
282 <213> ORGANISM: Escherichia coli
284 <400> SEQUENCE: 8
285 Asn Ala Pro Pro Ala Asp Lys Phe Lys Ile Phe Glu Ala Ala Phe Ser
286      1                      5                      10                      15
288 Glu Ser Ser Lys
289                      20
292 <210> SEQ ID NO: 9
293 <211> LENGTH: 20
294 <212> TYPE: PRT
295 <213> ORGANISM: Escherichia coli
297 <400> SEQUENCE: 9
298 Phe Glu Ala Ala Phe Ser Glu Ser Ser Lys Gly Leu Leu Ala Thr Ser
299      1                      5                      10                      15
301 Ala Ala Lys Ala
302                      20
305 <210> SEQ ID NO: 10
306 <211> LENGTH: 20
307 <212> TYPE: PRT
308 <213> ORGANISM: Escherichia coli
310 <400> SEQUENCE: 10
311 Gly Leu Leu Ala Thr Ser Ala Ala Lys Ala Pro Gly Leu Ile Pro Lys
312      1                      5                      10                      15
314 Leu Asp Thr Ala
315                      20
318 <210> SEQ ID NO: 11
319 <211> LENGTH: 20
320 <212> TYPE: PRT
321 <213> ORGANISM: Escherichia coli
323 <400> SEQUENCE: 11
324 Pro Gly Leu Ile Pro Lys Leu Asp Thr Ala Tyr Asp Val Ala Tyr Lys
325      1                      5                      10                      15
327 Ala Ala Glu Gly
328                      20
331 <210> SEQ ID NO: 12
332 <211> LENGTH: 20
333 <212> TYPE: PRT
334 <213> ORGANISM: Escherichia coli
336 <400> SEQUENCE: 12
337 Tyr Asp Val Ala Tyr Lys Ala Ala Glu Gly Ala Thr Pro Glu Ala Lys
338      1                      5                      10                      15
340 Tyr Asp Ala Phe
341                      20
344 <210> SEQ ID NO: 13
345 <211> LENGTH: 20
346 <212> TYPE: PRT

```

Use of n and/or Xaa has been detected in the Sequence Listing.  
 Review the Sequence Listing to insure a corresponding  
 explanation is presented in the <220> to <223> fields of  
 each sequence using n or Xaa.

→ Use of n and/or Xaa has been detected in the Sequence Listing.  
 Review the Sequence Listing to insure a corresponding  
 explanation is presented in the <220> to <223> fields of  
 each sequence using n or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/08/737,904H

DATE: 11/01/2001

TIME: 19:01:03

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\11012001\H737904H.raw

L:20 M:283 W: Missing Blank Line separator, <210> field identifier  
L:211 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:214 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:234 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:591 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31  
L:910 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:913 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:1138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59  
L:1141 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59  
L:1166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60

1600

## RAW SEQUENCE LISTING

DATE: 10/26/2001

PATENT APPLICATION: US/08/737,904H

TIME: 12:58:55

Input Set : A:\seqlistcorrected(03-08-01).txt

Output Set: N:\CRF3\10262001\H737904H.raw

Does Not Comply  
Corrected Diskette Needed

3 <110> APPLICANT: Griffith, Irwin J  
 4 Kuo, Mei-Chang  
 5 Luqman, Mohammad  
 7 <120> TITLE OF INVENTION: T CELL EPITOPES OF RYEGRASS POLLEN ALLERGEN  
 9 <130> FILE REFERENCE: IMI-040CP3  
 11 <140> CURRENT APPLICATION NUMBER: 08/737,904H  
 12 <141> CURRENT FILING DATE: 1996-11-20  
 14 <150> PRIOR APPLICATION NUMBER: 08/106,016  
 15 <151> PRIOR FILING DATE: 1993-08-13  
 17 <160> NUMBER OF SEQ ID NOS: 61  
 19 <170> SOFTWARE: PatentIn Ver. 2.0

## ERRORED SEQUENCES

1173 <210> SEQ ID NO: 61  
 1174 <211> LENGTH: 20  
 1175 <212> TYPE: PRT  
 1176 <213> ORGANISM: Escherichia coli  
 1178 <400> SEQUENCE: 61  
 1179 Ala Asp Ala Gly Tyr Thr Pro Ala Ala Ala Thr Pro Ala Thr Pro  
 1180 1 5 10 15  
 1182 Ala Ala Thr Pro  
 1183 20  
 E--> 1185 1



## VERIFICATION SUMMARY

PATENT APPLICATION: US/08/737,904H

DATE: 10/26/2001

TIME: 12:58:56

Input Set : A:\seqlistcorrected(03-08-01).txt

Output Set: N:\CRF3\10262001\H737904H.raw

L:20 M:283 W: Missing Blank Line separator, <210> field identifier  
L:211 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:214 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:234 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:591 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31  
L:910 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:913 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:1138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59  
L:1141 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59  
L:1166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60  
L:1185 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:61